

Listing of Claims

1. (Presently amended) A process for fixed bed sweetening of petroleum distillates using a dichloro- or dibromo- cobalt or iron halogenated metal phthalocyanine as a catalyst which comprises impregnating the catalyst on an activated charcoal bed by circulating an alcoholic alkaline solution of the catalyst through said activated charcoal bed until a colourless solution is obtained in the effluent, thereby obtaining a catalyst impregnated charcoal bed, passing the petroleum distillate through said catalyst impregnated charcoal bed along with air or oxygen at a temperature in the range 20°C to 100°C at a pressure in the range 1 kg/cm² to 15 kg/cm² with a liquid hourly space velocity in the range 1 hr⁻¹ to 15 hr⁻¹ with continuous or intermittent injection of alkali solution of concentration in the range 0.5 - 20%, to obtain the desired low mercaptan level petroleum distillates

2. (Previously presented) A process as claimed in claim 1, wherein the alcoholic alkaline solution used is selected from methanolic and ethanolic solution of sodium hydroxide.

3 (Presently amended) A process as claimed in claim 1 wherein said halogenated metal phthalocyanine catalyst used is selected from dichloro cobalt phthalocyanine and dibromo cobalt phthalocyanine.

4. (Previously amended) A process as claimed in claimed in claim1 wherein the concentration of catalyst used in the fixed bed is in the range 0.1 wt% to 1 wt% of activated charcoal.

5 (currently amended) A process as claimed in claim 1, wherein the halogenated metal said dichloro- or dibromo- cobalt or iron halogenated metal phthalocyanine is prepared by treating the cobalt or iron phthalocyanine with a halogenating agent selected from the

group comprising chlorine, bromine, iodine, thionyl chloride, sulphuryl chloride, phosphorus pentachloride, phosphorus oxychloride, phosphorus pentabromide and phosphorus trichloride.

6 (Previously presented) A process as claimed in claim 1, wherein the petroleum distillate used is selected from diesel, kerosine and FCC gasoline.

7 (Previously presented) A process as claimed in claim 1 wherein the temperature is about in the range 20°C to 50°C.

8 (Previously presented) A process as claimed in claim 1, wherein the pressure is about in the range 5 kg/cm² - 8 kg/cm².

9 (Previously presented) A process as claimed in claim 1, wherein the liquid hourly space velocity (LHSV) is about in the range 1hr⁻¹ to 6hr⁻¹.

10 (Previously presented) A process as claimed in claim 2, wherein said halogenated metal phthalocyanine catalyst used is selected from dichloro cobalt phthalocyanine and dibromo cobalt phthalocyanine.

11.(Previously presented) A process as claimed in claim 2, wherein the concentration of catalyst used in the fixed bed is in the range 0.1 wt% to 1 wt% of activated charcoal.

12.(Previously presented) A process as claimed in claim 3, wherein the concentration of catalyst used in the fixed bed is in the range 0.1 wt% to 1 wt% of activated charcoal.

13. (Currently amended) A process as claimed in claim 2, wherein the halogenated metal said dichloro- or dibromo- cobalt or iron halogenated metal

phthalocyanine is prepared by treating the cobalt or iron phthalocyanine with a halogenating agent selected from the group comprising chlorine, bromine, iodine, thionyl chloride, sulphuryl chloride, phosphorus pentachloride, phosphorus oxychloride, phosphorus pentabromide and phosphorus trichloride.

14 (Currently amended) A process as claimed in claim 3, wherein ~~the halogenated metal said dichloro- or dibromo- cobalt or iron halogenated metal~~ phthalocyanine is prepared by treating the cobalt or iron phthalocyanine with a halogenating agent selected from the group comprising chlorine, bromine, iodine, thionyl chloride, sulphuryl chloride, phosphorus pentachloride, phosphorus oxychloride, phosphorus pentabromide and phosphorus trichloride.

15 (Currently amended) A process as claimed in claim 4, wherein ~~the halogenated metal said dichloro- or dibromo- cobalt or iron halogenated metal~~ phthalocyanine is prepared by treating the cobalt or iron phthalocyanine with a halogenating agent selected from the group comprising chlorine, bromine, iodine, thionyl chloride, sulphuryl chloride, phosphorus pentachloride, phosphorus oxychloride, phosphorus pentabromide and phosphorus trichloride.

16. (Previously presented) A process as claimed in claim 2, wherein the petroleum distillate used is selected from diesel, kerosine and FCC gasoline.

17 (Previously presented) A process as claimed in claim 2, wherein the petroleum distillate used is diesel.

18 (Previously presented) A process as claimed in claim 2, wherein the petroleum distillate used is FCC gasoline.

19 (Cancelled)

20 (Cancelled)

21 (Previously presented) A process according to claim 1, wherein said injected alkali solution comprises sodium hydroxide.

22 (New) A process as claimed in claim 1 wherein said dichloro- or dibromo- cobalt or iron phthalocyanine is unsulfonated.

23 (New) A process as claimed in claim 1 wherein said dichloro- or dibromo- cobalt or iron phthalocyanine is insoluble in alkali or hydrocarbon during the sweetening process.